

The Effectiveness of Self-Determination Skills Training on Self-Handicapping Behaviors and Academic Engagement Among University Students

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ABSTRACT

Self-handicapping behaviors and reduced academic engagement are among the significant challenges facing students, which can negatively impact their academic performance and progress. The present study aimed to determine the effect of self-determination skills training on self-handicapping behaviors and academic engagement among male students majoring in elementary education at Farhangian University of Zabol. This research was applied in terms of purpose and quasi-experimental with a pretest-posttest control group design in terms of methodology. The statistical population included all male students majoring in elementary education at Farhangian University of Zabol during the 2024-2025 academic year, totaling 500 individuals. The research sample consisted of 30 participants who were selected through purposive sampling and randomly assigned to two groups: experimental (n=15) and control (n=15). Data collection instruments included the Zarang Academic Engagement Questionnaire (2012), Cunningham Self-Handicapping Behavior Questionnaire (2015), and Jalili Self-Determination Skills Training Package (2020). Data were analyzed using univariate and multivariate analysis of covariance (ANCOVA). The results indicated that self-determination skills training had a significant effect on reducing self-handicapping behaviors ($P=0.001$) and increasing academic engagement ($P=0.001$) among students. Self-determination skills training can be utilized as an effective intervention for reducing self-handicapping behaviors and improving academic engagement among elementary education students.

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Introduction

Students, as the future architects of society, play a pivotal role in the development and progress of a nation. Their success depends not only on physical and mental health but also on optimal academic performance ([Monajem & Saadat, 2017](#)). In this context, academic engagement is recognized as a key indicator of student success. Academic engagement refers to the psychological investment and direct effort students make to understand and master knowledge and skills ([Linnenbrink & Pintrich, 2003; cited in Hejazi & Rastegar, 2015](#)). It differs from academic performance as it reflects the students' efforts and willingness to participate in various academic activities (curricular or extracurricular) and is a process that can lead to higher performance over time (Puiu et al., 2024). Research consistently shows that the more students engage with academic issues and learning tasks, the higher their probability of academic success ([Sabet & Pasha Sharifi, 2013](#)). Academic engagement, encompassing behavioral, cognitive, and motivational dimensions, is not only the foundation for reformative efforts in education ([Noureddinvand & Pasha Sharifi, 2014](#)) but also serves as an antidote to self-defeating behaviors and academic decline ([Fredricks et al., 2017](#)). Given its multifaceted and malleable nature (Bresó et al., 2011; Wang & Eccles, 2012), it is crucial for researchers and educators to identify factors that enhance engagement, ultimately improving performance outcomes (Al-Rashidi et al., 2016; Woreta, 2024). Self-Defeating Behaviors Conversely, self-defeating behaviors represent one of the most significant barriers to academic success and effective engagement, posing a serious challenge in higher education. Initially emerging as coping mechanisms with short-term benefits ([Baumeister, 2013](#)), these behaviors quickly evolve into fixed patterns with negative long-term consequences ([Baumeister & Scher, 2016](#)). [Ren et al. \(2017\)](#) identified five types of self-defeating behaviors: procrastination, self-handicapping, invalid evaluation, inability to delay gratification, and indecisiveness.

In behaviors like academic procrastination, individuals attempt to absolve themselves of responsibility through excuses and ambiguous behaviors due to a fear of failure ([Baumeister & Bushman, 2014; cited in Akbari et al., 2023](#)). The use of strategies like self-handicapping to justify potential academic failure is prevalent among students, with evidence clearly showing its detrimental impact on educational processes ([Gadbois & Sturgeon, 2018; Berglas & Jones, 1998](#)).

Theoretical Framework: Self-Determination Theory (SDT) Literature suggests that self-determination is a fundamental factor related to both self-defeating behaviors and academic engagement ([DeBoer et al., 2013](#)). While self-defeating behaviors are influenced by upbringing, they can predict positive psychological components. Self-Determination Theory (SDT) is built upon psychological needs (Hatinen et al., 2018). Self-determination skills, defined by [Deci and Ryan \(2013\)](#), are a set of behaviors and capabilities that enable individuals to make independent decisions, solve problems, and act toward enhancing their psychological well-being. The core of SDT comprises three basic psychological needs: Autonomy (feeling a sense of choice and volition in initiating and regulating activities), Competence (feeling effective in interacting with the environment and mastering challenges), and Relatedness (establishing emotional bonds and intimate relationships with others) ([Deci & Ryan, 2013; Filak & Sheldon, 2017; Reeve, 2011](#)). Interventions based on SDT strengthen autonomous motivation, which meta-analyses link to academic persistence, well-being, and greater participation through the satisfaction of these three needs ([Großmann et al., 2023](#)). Meeting these needs fosters self-confidence and self-worth, while their frustration leads to fragile, negative, and critical self-perceptions ([Chen & Jang, 2015](#)). Self-determination training begins with two dimensions: Self-Awareness (recognizing strengths, needs, and priorities) and Value-Oriented (appreciating strengths, recognizing rights, and self-care). By understanding these values, students become more aware of their behavior and achieve positive interpretations of themselves and their environment ([Chiu et al., 2024](#)).

Rationale for the Study While SDT is a robust framework for explaining human motivation ([Ryan & Deci, 2017](#)), experimental studies directly examining the effectiveness of self-determination skills training on academic variables are limited. Furthermore, most research in this area has been correlational. Few experimental or quasi-experimental studies have simultaneously evaluated the impact of SDT-based interventions on reducing self-defeating behaviors and increasing academic engagement. This gap exists despite researchers emphasizing the teachability of self-determination skills ([Field & Hoffman, 2007](#)). Additionally, since most SDT studies have been conducted in Western societies, the generalizability of these findings to the Iranian cultural context requires empirical investigation. This is particularly critical in deprived regions like Zabol, where students face educational limitations and a lack of counseling services. Therefore, this study aims to

investigate the effectiveness of self-determination skills training on self-defeating behaviors and academic engagement among male students in Zabol.

Method

Sample and Sampling Method

The statistical population of this study consisted of all male students in the Primary Education program at the University of Teacher Education in Zabol during the 2023-2024 academic year, totaling 500 students. Based on Delavar's (2014) recommendation that the minimum sample size for each intervention and control group in a quasi-experimental design should be 15 participants, 30 students were selected through purposive sampling and randomly assigned to two groups: the experimental group (15 participants) and the control group (15 participants).

Tools Used

The Academic Engagement Questionnaire by Zarang (2012): This researcher-developed questionnaire consists of 38 items based on the theoretical model of Linnenbrink and Pintrich. The questionnaire has three components: cognitive engagement (items 1, 2, 5, 6, 9, 10, 13, 14, 17, 18, 21, 22, 25, 26, 29, 30, 33, 34, 37), motivational engagement (items 3, 7, 11, 15, 19, 23, 27, 28, 31, 35), and behavioral engagement (items 4, 8, 12, 16, 20, 24, 32, 36, 38). Scoring is based on a five-point Likert scale (1 = always false to 5 = always true), with a score range between 38 and 190. Higher scores indicate a higher level of academic engagement. The content validity of the questionnaire was confirmed by experts in educational sciences, and its reliability was reported with a Cronbach's alpha coefficient of 0.90.

Cunningham's Self-Sabotaging Behaviors Questionnaire (2015): This questionnaire consists of 21 items that assess six components of self-sabotaging behaviors: procrastination (items 1-5), self-handicapping (items 6-10), increased commitment (items 11-12), invalid evaluation (item 13), impulsive behavior and inability to delay rewards (items 14-18), and delay and inability to make decisions (items 19-21). Responses are evaluated based on a five-point Likert scale. In each scenario, some options indicate the presence of self-sabotaging behavior, while others indicate its absence, and are scored in reverse. Scores above 52 indicate a high level of self-sabotaging behaviors. In the research by Hadad Ranjbar (2018), the validity of the questionnaire was confirmed, and its reliability was reported with a Cronbach's alpha coefficient of 0.92.

Procedure

After obtaining the necessary permissions from the University of Teacher Education in Zabol and coordinating with relevant authorities, a call for participation in the research titled "Teaching Self-Determination Skills" was issued to male students in the Primary Education program. The inclusion criteria for participant selection included being a male student in the Primary Education program, willingness and informed consent to participate in the study, no concurrent psychological interventions, no history of severe mental illnesses, no use of psychoactive drugs, and an age range of 18 to 25 years. The exclusion criteria included more than two absences during the training sessions, unwillingness to continue participating in the study, onset of acute physical or mental illness, and failure to cooperate in completing questionnaires.

After reviewing these criteria, 30 students were purposefully selected and randomly assigned to the experimental and control groups using a random number table. Before the intervention, both groups completed pre-tests using the Self-Sabotaging Behaviors and Academic Engagement questionnaires.

The educational package used in this study was based on the self-determination skills training program developed by [Jalili \(2020\)](#). The experimental group received the self-determination skills training program in 11 sessions, each lasting 60 minutes, once a week. The sessions were conducted in a group format by the researcher, who specialized in educational psychology. The content of the sessions included teaching components such as self-awareness, self-regulation, independent decision-making, problem-solving, goal setting, and planning. During this period, the control group did not receive any educational intervention and continued their regular academic activities. After the training sessions were completed, both groups underwent post-tests.

Throughout the study, ethical principles such as confidentiality of information, informed consent, the right to withdraw from the study, and providing feedback to participants were adhered to. Additionally, after the study was completed and the data were analyzed, the educational program was briefly offered to the control group as well, so they would not miss out on the benefits of the training. The collected data were analyzed using SPSS software version 24, employing descriptive (mean and standard deviation) and inferential (multivariate analysis of covariance) statistical methods.

Table 1. Self-Determination Skills Training Program Content

Session	Training Content
Session 1	General introduction to the training program, introduction to session topics
Session 2	Training in choice and decision-making skills including definitions and teaching stages and components of decision-making and its phases, Klaczynski's processing model, Judith's cognitive style model, how to teach decision-making to students, and practical exercises by students
Session 3	Review of previous session, homework review, and training in problem-solving skills including definition, problem-solving stages, Maniz and Wisdom's proposed method, facilitating factors, and practical exercises by students
Session 4	Review of previous session, homework review, and training in goal-setting skills including definition and explanation of goal characteristics, types of goals based on time, factors influencing goal setting and commitment to it, achievement goal orientation, relationship between goals and attributions, and practical exercises by students
Session 5	Review of previous session, homework review, and training in self-regulation including definition, models and dimensions of self-regulation, stages of self-regulation with examples, explanation of the cyclical model of self-regulation, and practical exercises by students
Session 6	Review of previous session, homework review, and training in locus of control including definition of control source and its dimensions (Weiner's theory), attributional bias or error, relationship between attributions and expectations, application of attribution theory in the classroom, and practical exercises by students
Session 7	Review of previous session, homework review, and training in communication and empathy skills including Islamic approach, factors affecting interpersonal relationships, definition of empathy, ways to strengthen empathy, skills for establishing effective communication with students, and practical exercises by students
Session 8	Review of previous session, homework review, and training in self-efficacy including definition and influencing factors, relationship between self-efficacy and competence and academic achievement, how to educate self-efficacious students, and practical exercises by students
Session 9	Review of previous session, homework review, and training in self-actualization including definition, characteristics of self-actualized individuals according to Rogers and Maslow and related explanations, how to achieve self-actualization, and practical exercises by students
Session 10	Review of previous session, homework review, training in internalization including definition of internalization, types of motivation and their definitions, explanation of the self-determination continuum, factors affecting internalization, examination of reasoning methods of students with different levels of internalization, and practical exercises by students
Session 11	Review of previous session, homework review, application of motivation theory in education including relationship with classroom management methods, characteristics of autonomy-supportive teachers, role of assignments and how to deal with them, feedback, rewards, educational opportunities and interest in students' self-determination, and practical exercises by students

Results

To examine the effect of self-determination skills training on students' self-handicapping behaviors, multivariate analysis of covariance (MANCOVA) was employed. The results of multivariate tests are presented in Table 1.

Table 1. Results of Multivariate Tests for Comparison of Experimental and Control Groups on Self-Handicapping Behaviors

Test Name	Value	Hypothesis df	Error df	F	Sig
Pillai's Trace	0.93	6	17	41.23	0.001
Wilks' Lambda	0.07	6	17	41.23	0.001
Hotelling's Trace	14.55	6	17	41.23	0.001
Roy's Largest Root	14.55	6	17	41.23	0.001

As shown in Table 1, the significance level of the multivariate F statistic (Wilks' Lambda = 0.07, $P = 0.001$) indicates that there is a significant difference between the experimental and control groups in at least one component of self-handicapping behaviors. To determine the difference in each component, the results of univariate analysis of covariance are presented in Table 2.

Table 2. Results of Univariate Analysis of Covariance for Comparison of Self-Handicapping Behavior Components

Component	Sum of Squares	df	Mean Square	F	Sig	Effect Size
Procrastination	5.22	1	5.22	33.85	0.001	0.60
Self-Disablement	6.84	1	6.84	63.97	0.001	0.74
Escalation of Commitment	0.07	1	0.07	1.01	0.32	0.04
Invalid Evaluation	2.92	1	2.92	60.15	0.001	0.73
Impulsive Behavior	3.33	1	3.33	22.43	0.001	0.50
Delay in Decision-Making	4.04	1	4.04	123.64	0.001	0.83

The results in Table 2 indicate that self-determination skills training had a significant effect on five components: procrastination ($F = 33.85$, $P = 0.001$), self-disablement ($F = 63.97$, $P = 0.001$), invalid evaluation ($F = 60.15$, $P = 0.001$), impulsive behavior ($F = 22.43$, $P = 0.001$), and delay in decision-making ($F = 123.64$, $P = 0.001$). Only the escalation of commitment component ($F = 1.01$, $P = 0.32$) showed no significant difference between the two groups. The adjusted means of self-handicapping behavior components are presented in Table 3.

Table 3. Adjusted Means of Self-Handicapping Behavior Components at Posttest

Component	Group	Mean	Standard Error
Procrastination	Experimental	2.26	0.11
	Control	3.24	0.11
Self-Disablement	Experimental	2.22	0.09
	Control	3.34	0.09
Invalid Evaluation	Experimental	3.14	0.06
	Control	3.88	0.06
Impulsive Behavior	Experimental	2.88	0.10
	Control	3.66	0.10
Delay in Decision-Making	Experimental	2.79	0.05
	Control	3.65	0.05

As observed in Table 3, the adjusted means of the experimental group across all significant components were lower than those of the control group, indicating a reduction in self-handicapping behaviors in the experimental group. The effect sizes for significant components ranged from 0.50 to 0.83, indicating large to very large intervention effects.

To examine the effect of self-determination skills training on students' academic engagement, multivariate analysis of covariance (MANCOVA) was employed. The results of multivariate tests are presented in Table 4.

Table 4. Results of Multivariate Tests for Comparison of Experimental and Control Groups on Academic Engagement

Test Name	Value	Hypothesis df	Error df	F	Sig
Pillai's Trace	0.82	3	23	35.33	0.001
Wilks' Lambda	0.18	3	23	35.33	0.001
Hotelling's Trace	4.60	3	23	35.33	0.001
Roy's Largest Root	4.60	3	23	35.33	0.001

The results in Table 4 show that the significance level of the multivariate F statistic (Wilks' Lambda = 0.18, $P = 0.001$) indicates a significant difference between the experimental and control groups in at least one component of academic engagement. The results of univariate analysis of covariance for each component are presented in Table 5.

Table 5. Results of Univariate Analysis of Covariance for Comparison of Academic Engagement Components

Component	Sum of Squares	df	Mean Square	F	Sig	Effect Size
Cognitive Engagement	3.41	1	3.41	20.08	0.001	0.44
Motivational Engagement	7.96	1	7.96	83.50	0.001	0.77
Behavioral Engagement	2.51	1	2.51	11.77	0.002	0.32

The findings in Table 5 indicate that self-determination skills training had a significant effect on all three components: cognitive engagement ($F = 20.08$, $P = 0.001$), motivational engagement ($F = 83.50$, $P = 0.001$), and behavioral engagement ($F = 11.77$, $P = 0.002$). The adjusted means of academic engagement components are presented in Table 6.

Table 6. Adjusted Means of Academic Engagement Components at Posttest

Component	Group	Mean	Standard Error
Cognitive Engagement	Experimental	4.07	0.11
	Control	3.37	0.11
Motivational Engagement	Experimental	3.80	0.08
	Control	2.72	0.08
Behavioral Engagement	Experimental	3.63	0.12
	Control	3.02	0.12

The results in Table 6 demonstrate that the adjusted means of the experimental group across all academic engagement components were higher than those of the control group, indicating an increase in academic engagement in the experimental group. The effect sizes for the components ranged from 0.32 to 0.77, indicating medium to large intervention effects.

Discussion & Conclusion

The primary aim of the present study was to determine the effect of self-determination skills training on self-defeating behaviors and academic engagement among male students majoring in Elementary Education at Farhangian University in Zabol. The results indicated that training in self-determination skills significantly impacts the self-defeating behaviors of these students. This finding aligns with the results obtained from studies by [Kazemi et al. \(2024\)](#), [Jalili et al. \(2024\)](#), [Keyvan et al. \(2024\)](#), [Shadju et al. \(2022\)](#), and Haddad Ranjbar et al. (2018). Specifically, [Kazemi et al. \(2024\)](#) demonstrated that teaching self-determination skills positively influences the academic meaning for students exhibiting self-defeating behaviors. Furthermore, [Jalili et al. \(2024\)](#) suggested that learning and applying self-determination skills can reduce self-handicapping and procrastination throughout a student's academic career.

Self-defeating behaviors are essentially coping mechanisms that offer short-term benefits, such as the restoration of mood or self-esteem. For instance, a procrastinator experiences an immediate sense of relief after delaying a task ([Tice et al., 2013](#)). These behaviors are typically voluntary; they are enacted despite the individual's awareness of their negative consequences. Not only do these behaviors lead to acute

academic problems, but they also result in psychological consequences such as anxiety, helplessness, depression, and psychological distress ([Wei & Ku, 2007](#)). Such behaviors can lead to diminished academic performance and motivation, ultimately resulting in academic failure and the underutilization of students' true potential and abilities ([Salguero-Pazos & Reyes-de-Cózar, 2023](#)). According to Berglas and Jones (1998), these behaviors allow individuals to attribute failure to external factors (as an excuse) and success to internal factors (to gain credit). Essentially, this active strategy increases opportunities to externalize failure and internalize success. Fear of negative evaluation and self-determination are intrinsically linked to self-defeating behaviors ([DeBoer et al., 2013](#)).

Wehmeyer et al. (2012) view self-determination skills as a factor that empowers individuals to freely make decisions and choose their quality of life, independent of external influences. Consequently, researchers emphasize that self-determination skills are teachable. Based on this, it can be posited that training in these skills—by fostering autonomy and informed decision-making—liberates students from dependence on external justifications for failure and reduces the need for defensive mechanisms like procrastination and self-handicapping. These skills assist individuals in accepting responsibility for their performance rather than escaping negative evaluation through self-defeating acts. By relying on internal capabilities, students can address academic challenges independently and purposefully. As a result, the reduction in fear of failure and the increase in internal locus of control break the vicious cycle of justification and effort avoidance.

The results of the present study also demonstrated that self-determination skills training impacts students' academic engagement. This finding is consistent with research by [Zeinali et al. \(2024\)](#), [Dehghan Marvasti et al. \(2021\)](#), [Modarresi Hojat Abadi et al. \(2021\)](#), [Mirzaei and Ramazanpour \(2021\)](#), [Markel and Johnston-Wildis \(2023\)](#), [Vandana \(2019\)](#) and [Nuñez and Leon \(2019\)](#),

[Zeinali et al. \(2024\)](#) found that self-determination skills training effectively increased academic participation in female students. Similarly, [Shirzadi et al. \(2021\)](#) showed that such training can be utilized to reduce deviant behaviors and increase academic engagement in educational settings. [Dehghan Marvasti et al. \(2021\)](#) reported a positive and significant relationship between self-determination and academic engagement, noting that learners whose basic psychological needs are met demonstrate higher academic performance. Supporting Self-Determination Theory (SDT), Dincer, Yesilyurt, and Takkac (2012) showed that when the educational environment supports students' need for autonomy, their sense of competence, academic engagement, class participation, and academic achievement increase significantly. It appears that teaching self-determination skills can enhance student involvement in the learning process, including time spent on assignments, completion of homework, voluntary class participation, and attendance in extracurricular activities ([Shirzadi et al. 2021](#)). Therefore, it can be explained that by strengthening the sense of autonomy, competence, and relatedness, this training makes students feel capable of controlling their academic processes. This sense of independence and responsibility boosts intrinsic motivation, leading to greater participation and engagement in learning. Overall, this study highlights that self-determination skills training not only reduces self-defeating and self-handicapping behaviors but also significantly boosts academic engagement. By enhancing autonomy and decision-making skills, students distance themselves from external excuses for failure and accept responsibility for their performance. However, this study faces limitations, including the restricted sample of male students from Farhangian University in Zabol, which limits generalizability. Additionally, only short-term effects were examined. Future research should utilize larger, more diverse samples and investigate the long-term effects of such interventions in various educational settings.

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